Energy Performance in the LEED Rating System
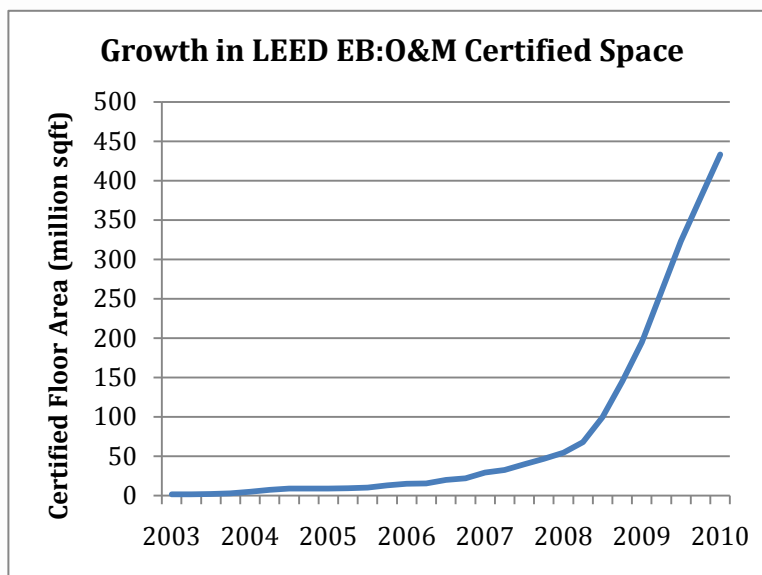
Reconciling Design and Performance

Too often, buildings do not perform to their full design potential. The integrated approach used to design and construct LEED buildings is only a part of the whole performance process -- how much energy and water a building consumes is influenced by its design but determined by the management and operations, as well as the behavior of the occupants.

Because actual performance is the key to reducing a building's impact, USGBC has developed several tools to help building managers and owners achieve and maintain high-performance operations. USGBC is working with our stakeholders to tackle this issue by continuously improving the LEED rating system and by working directly with building owners to help them understand and improve their building's performance.

A Focus on Operations and Maintenance

The first step in improving performance is to understand where a building stands in comparison to similar buildings and its own potential. To encourage owners to take the first step, USGBC launched LEED for Existing Buildings in 2004. The rating system required minimum energy performance of building operations to attain certification at any level. Re-launched as LEED for Existing Buildings: Operations and Maintenance (O&M) in 2008, the rating system continues to require whole-building energy metering and reporting via ENERGY STAR for at least 1-year prior to certification and additional points are awarded to incentivize higher performance.

Figure 1: Growth of LEED EB:O&M

Growth in LEED EB:O&M Certified Space

LEED for Existing Buildings: O&M has seen explosive growth since 2008. More certifications are awarded under LEED for Existing Buildings: O&M on a square-footage basis than any other LEED rating system. As a result of this growth, LEED projects are becoming predominantly existing buildings that have received certification based on verified energy performance.

The rapid uptake of this tool signals that the market is becoming increasingly aware of energy performance and is ready to move further toward even higher levels of performance. Because existing buildings make up the vast majority of the U.S. building stock, tools like LEED for Existing Buildings: Operations and Maintenance are essential to reducing energy consumption from this sector.

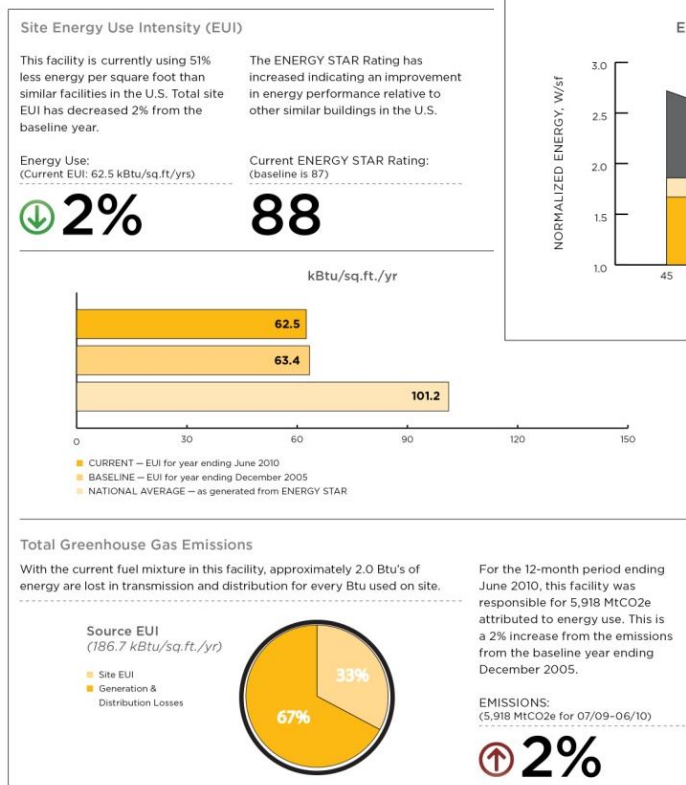POLICY BRIEF U.S. GREEN BUILDING COUNCIL

Data Disclosure

In an effort to highlight the need for performance monitoring of LEED buildings, USGBC requires building owners of all projects share their water and energy usage data with USGBC for at least five years. Unlike credits within the rating systems, energy and water data sharing is a minimum program requirement – and is not optional. USGBC seeks to use this data to inform future changes to the rating system and as an opportunity to engage building owners on the performance of their facilities though information sharing and partnerships, such as the Building Performance Partnership.

Building Performance Partnership (BPP)

The Building Performance Partnership is a collaborative partnership between USGBC and the owners and operators of LEED buildings. USGBC works directly with building owners to optimize building performance through data collection, analysis and action. Owners will receive analysis and interpretation of their information, as well as recommendations and advice on improvements.
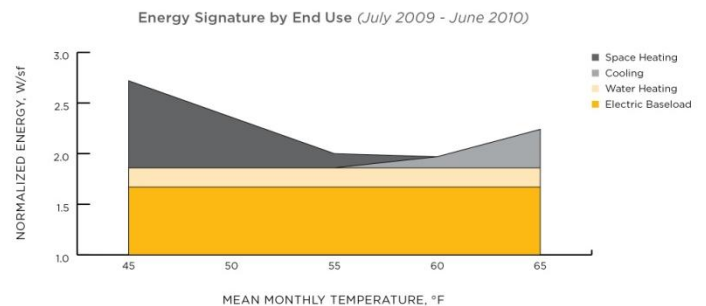
Figure 2. Sample BPP Report on Energy Use

A Look Ahead: What's in Store for the Next Version of LEED

Strengthening the bridge between design potential and actual performance through the lifetime of the building is a primary focus in the next version of LEED. Within this theme, the next draft version of LEED features an entire category on Performance in addition to improvements to the Energy and Atmosphere credit category. Recertification guidelines and requirements for LEED are also being developed to fully address continued improvement in the performance of a LEED building.

Contact: For questions, please email LEEDPerformance@usgbc.org.